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Technology Center 2600

IN THE CLAIMS:

Please amend claims 1 and 10 as follows:

1. (Amended) A magnetic storage medium, comprising:

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a magnetic recording layer;
a superconducting layer; and
a thermal insulation layer, provided between the superconducting layer and the magnetic recording layer, for reducing heat transmitted from the superconducting layer to the magnetic recording layer[,
wherein
a Curie temperature of the magnetic recording layer is equal to, or higher than, a critical temperature of the superconducting layer].

10. (Amended) A method of recording and reproducing using a magnetic storage medium in which at least a magnetic recording layer, [and] a superconducting layer and a thermal insulation layer provided between the superconducting layer and the magnetic recording layer are deposited, [a critical temperature of the superconducting layer being equal to, or higher than, a Curie temperature of the magnetic layer,]

wherein:

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data is recorded in the magnetic recording layer by passing a signal magnetic field produced by a recording-use magnetic head through a part of the superconducting layer where the data is to be recorded and diamagnetism disappears; and

data is reproduced from the magnetic recording layer by detecting, using a reproduction-use magnetic head, a magnetic flux leakage from the magnetic recording layer through a part of the superconducting layer where the data is to be reproduced and diamagnetism disappears.